

Patent claims

10/582651
AP3 Rec'd PCT/PTO 13 JUN 2005

1. Vacuum cleaner bag made of an air-permeable filter material,
5 characterised in that
the vacuum-cleaner bag contains, per 1000 cm³
volume, 1-30 g of a material which can be whirled
up under a given air flow, the material which can
be whirled up having a volume per mass unit of 5
10 cm³/g to 100 cm³/g.
2. Vacuum-cleaner bag according to claim 1,
characterised in that the material which can be
whirled up comprises fibres and/or flakes.
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3. Vacuum-cleaner bag according to claim 2,
characterised in that the fibres are chemical
fibres and/or natural fibres.
- 20 4. Vacuum-cleaner bag according to claim 3,
characterised in that the chemical fibres are
cellulose fibres such as viscose and/or synthetic
fibres.
- 25 5. Vacuum-cleaner bag according to claim 4,
characterised in that the synthetic fibres are
selected from fibres formed from polyolefins,
polyester, polyamides, polyacrylonitrile and/or
polyvinyl alcohol.
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6. Vacuum-cleaner bag according to claim 3,
characterised in that the natural fibres are
selected from cellulose, wood fibre materials,
kapok, flax, jute, Manila hemp, coco, wool,

cotton, Kenaf, abaca, mulberry bast and/or fluff pulp.

- 5 7. Vacuum-cleaner bag according to at least one of claims 2 to 6, **characterised in that** the fibres are charged and/or triboelectric fibre mixtures and/or **in that** the fibres form a triboelectric combination in combination with the filter medium of the dust-collecting filter.
- 10 8. Vacuum-cleaner bag according to at least one of claims 2 to 6, **characterised in that** the fibres are smooth, branched, crimped, hollow and/or textured and/or have a non-circular (e.g. trilobal) cross-section.
- 15 9. Vacuum-cleaner bag according to at least one of claims 2 to 8, **characterised in that** the fibres have a mean length of between 0.3 mm and 100 mm, preferably between 0.5 and 20 mm.
- 20 10. Vacuum-cleaner bag according to claim 9, **characterised in that** the fibres have a mean length of 1 to 9.5 mm.
- 25 11. Vacuum-cleaner bag according to claim 2, **characterised in that** the flakes are selected from cellular plastics, non-wovens, textiles, foamed starch, foamed polyolefins, as well as films and recovered fibres.
- 30 12. Vacuum-cleaner bag according to claim 11, **characterised in that** the flakes have a diameter of 0.3 mm to 30 mm, preferably 0.5 to 20 mm.

13. Vacuum-cleaner bag according to claim 12, characterised in that the flakes have a diameter of 1 to 9.5 mm.
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14. Vacuum-cleaner bag according to at least one of claims 1 to 13, characterised in that the material which can be whirled up is electrostatically charged.
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15. Vacuum-cleaner bag according to at least one of claims 1 to 14 , characterised in that the vacuum-cleaner bag is so dimensioned and designed that the volume flow rate through the bag can be 10 m³/h to 400 m³/h.
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16. Vacuum-cleaner bag according to at least one of claims 1-15, characterised in that 5 to 15 g of material which can be whirled up are contained per 1000 cm³.
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17. Vacuum-cleaner bag according to at least one of claims 1 to 16, characterised in that the filter material is a single-layer or multilayer paper and/or non-woven material.
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18. Method for extending the service life of a vacuum-cleaner bag which is operated with a predetermined volume flow rate, characterised in that a vacuum-cleaner bag according to at least one of claims 1 to 17 is used.
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19. Method according to claim 18, characterised in that the working volume flow rate is between 10 m³/h and 400 m³/h.
- 5 20. Method according to claim 18 or 19, characterised in that the material capable of being whirled up is introduced into the vacuum-cleaner bag before the start of a first suction process or at the start of the suction process.
- 10 21. Method according to at least one of claims 18 to 20, characterised in that the material which can be whirled up is present in a wrapper and is introduced into the vacuum-cleaner bag before the start of a first suction process or at the start of the suction process.
- 15 22. Method according to claim 21, characterised in that the wrapper is so designed that it is destroyed at the given volume flow rate.
- 20 23. Method according to at least one of claims 18 to 22, characterised in that this is a method for vacuum-cleaning using a cylinder vacuum-cleaner or an upright vacuum-cleaner.
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